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May 12, 1993

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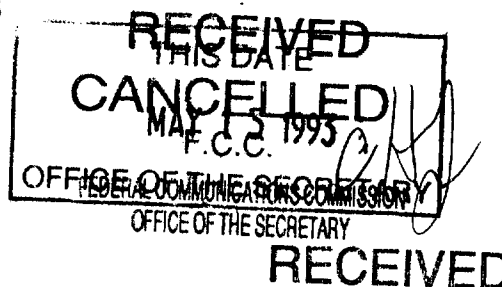
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Ms. Donna R. Searcy
Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: Ex Parte Presentation
General Docket No. 90-314
ET Docket No. 92-100
ET Docket No. 92-9



/ MAY 12 1993
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Dear Ms. Searcy:

On May 11, 1993, representatives from Motorola Inc. met with the following members of the Commission's staff to discuss mobile satellite use of the "emerging technology bands," including some of the spectrum under consideration for terrestrial PCS: Thomas Tycz, Common Carrier Bureau; John Williams, Evan Kwerel, David Reed, Office of Plans and Policy; Bruce Franca, Raymond LaForge, John Reed, Bruno Pattan, Thomas Deringe, William Daniel, David Means, Office of Engineering and Technology; and Thomas Walsh, Office of International Communications.

The matters discussed during that meeting are described in a document entitled "Use of 2 GHz Emerging Technology Bands by Iridium-type Systems," six copies of which are attached hereto. Please place two copies of this document in each of the above-referenced dockets.

Respectfully submitted,

Barry Lambergerman
Counsel for Motorola Inc.

BL/cm
Enc.6

cc: Mr. Thomas S. Tycz (by hand, w/enc.)
Mr. John Williams (by hand, w/enc.)
Mr. Bruce Franca (by hand, w/enc.)
Mr. Thomas Walsh (by hand, w/enc.)

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Ex Parte Presentation
Gen. Dkt. 90-314
ET Dkt. 92-100
ET Dkt. 92-9

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**PRESENTATION BY MOTOROLA INC.
TO FEDERAL COMMUNICATIONS COMMISSION**

**USE OF 2 GHz EMERGING TECHNOLOGY BANDS
BY IRIDIUM-TYPE SYSTEMS**

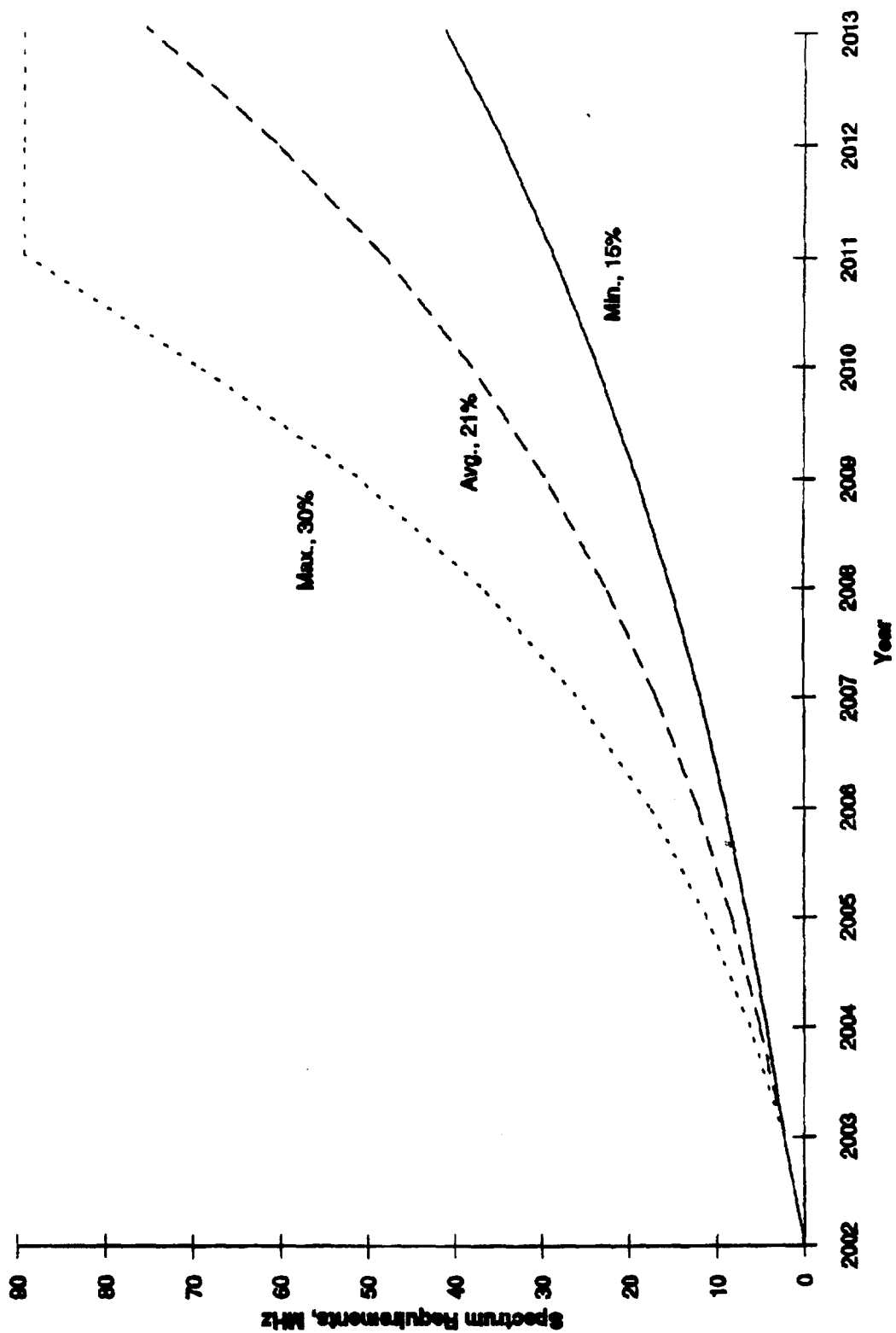
MAY 11, 1993

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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Projected growth in CONUS Spectrum Requirements for Iridium type Communications 2 GHz Band (assuming 10.5 MHz available at L Band)



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PROJECTED CONUS SPECTRUM REQUIREMENTS
FOR IRIDIUM-TYPE SYSTEMS

- **BASED ON COMPUTER MODEL, IRIDIUM-TYPE SYSTEMS WILL NEED 12.8 MHz BY THE YEAR 2003 (I.E., END OF FIRST GENERATION)**
- **ADDITIONAL SPECTRUM NEEDED FOR IRIDIUM-TYPE SYSTEMS BEYOND THE YEAR 2003 (I.E., NOT COUNTING THE 10.5 MHz OF L-BAND ASSUMED AVAILABLE):**

<u>YEAR</u>	<u>GROWTH RATE</u>		
	<u>15%</u>	<u>21%</u>	<u>30%</u>
2008	15.2	22.7	37.0
2013	41.3	75.6	89.5

NOTE: TOTAL MSS SPECTRUM REQUIREMENTS WILL EXCEED THESE FIGURES BECAUSE ABOVE PROJECTIONS DO NOT TAKE INTO ACCOUNT SPECTRUM NEEDED FOR NON-IRIDIUM-TYPE SYSTEMS

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**2 GHz BANDS UNDER CONSIDERATION BY MOTOROLA TO
SATISFY FUTURE IRIDIUM SPECTRUM REQUIREMENTS**

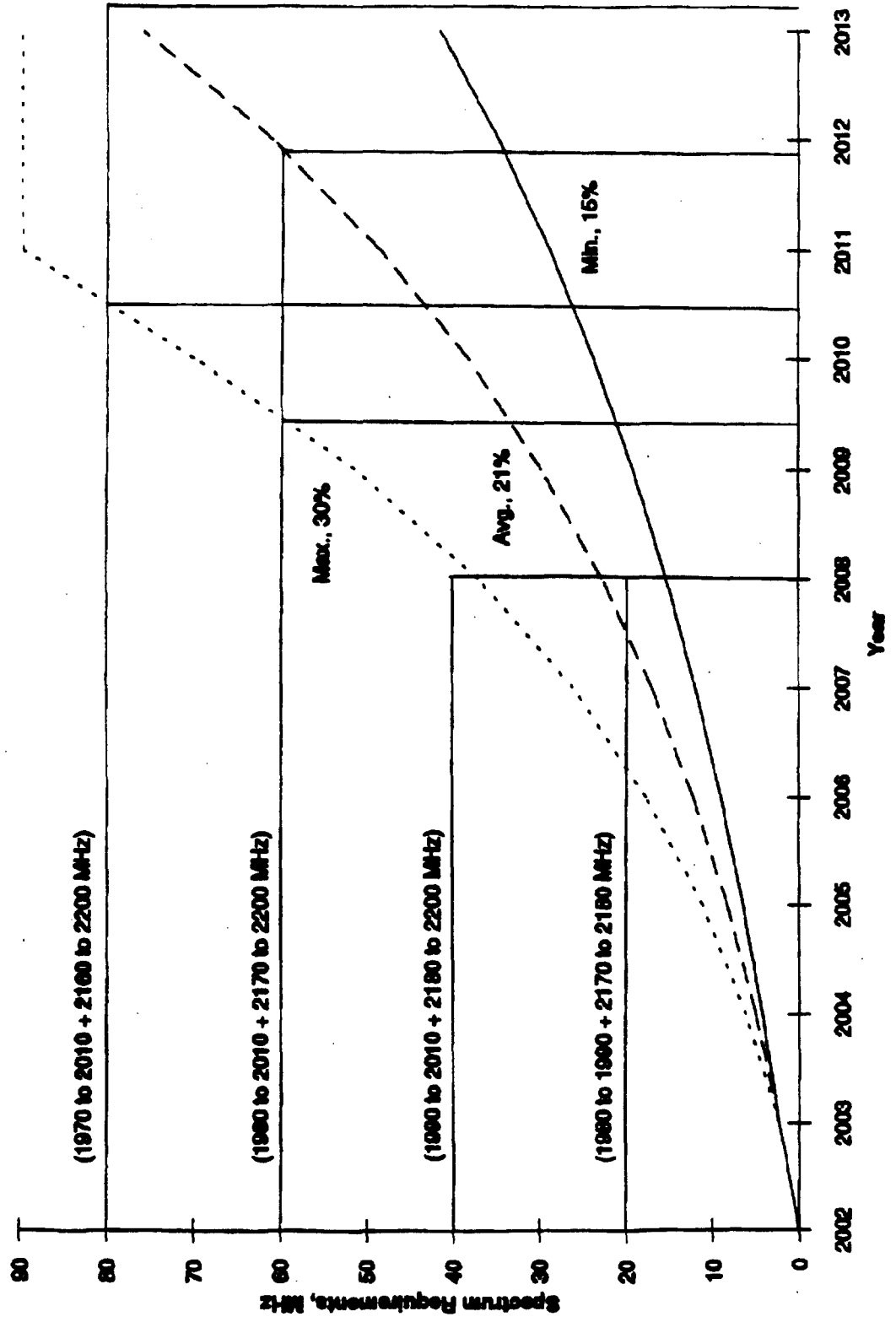
BAND

PATH

REGIONS

DATE

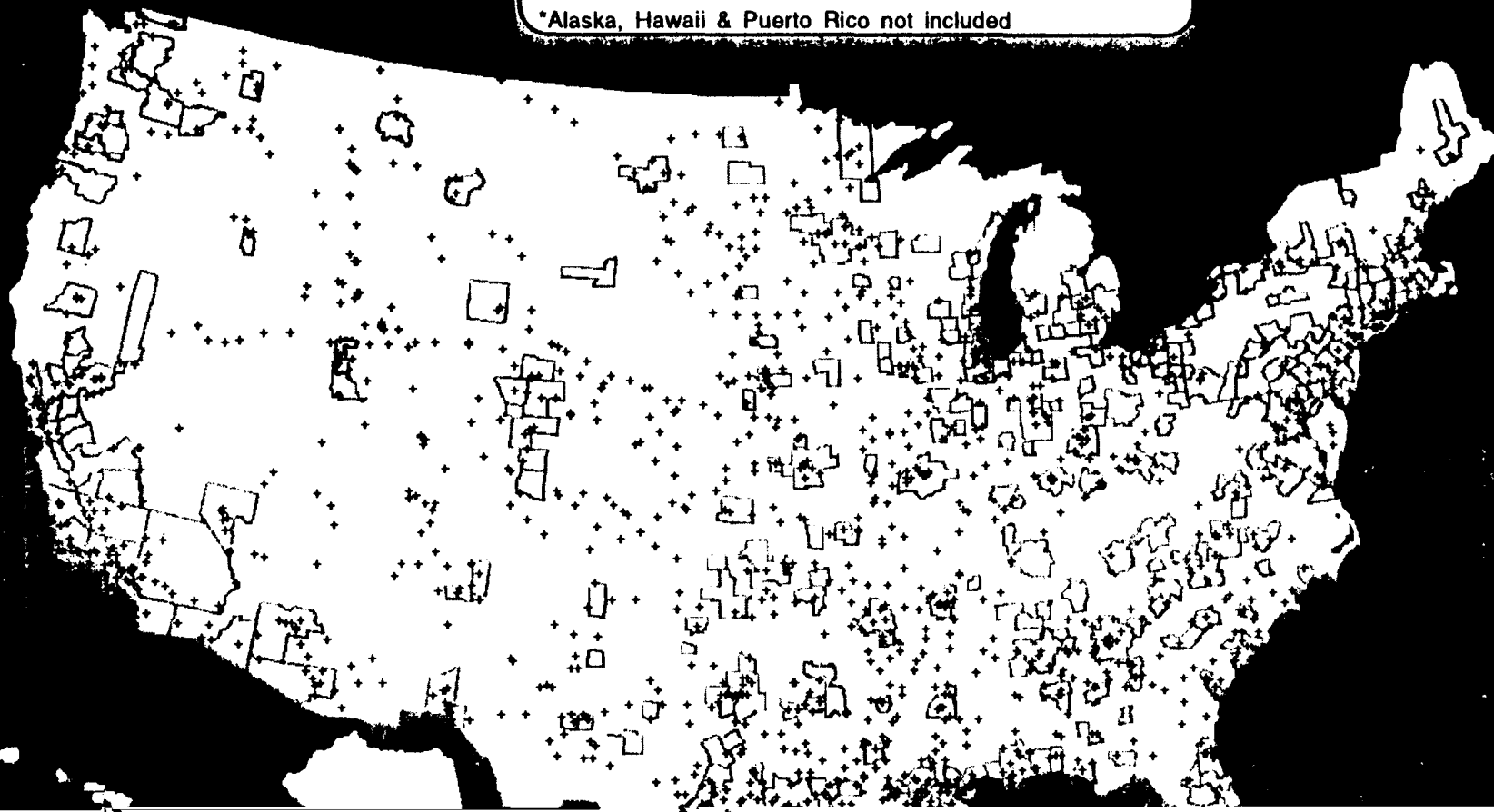
**Projected growth in COMUS Spectrum Requirements for Iridium type Communications
2 GHz Band (assuming 10.5 MHz available at L Band)**

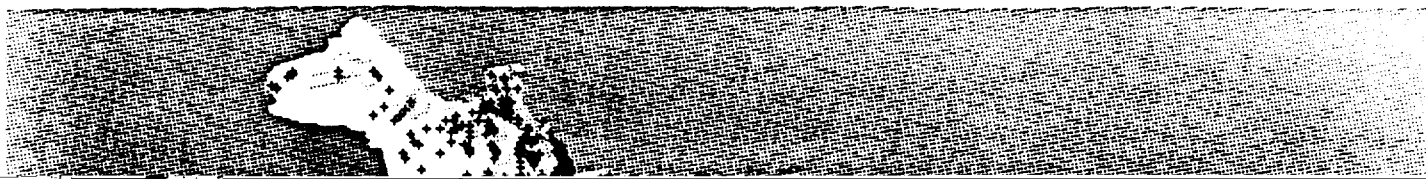


1970-1979.99 1980-1989.99

Continental* 48 States
1970-1990 Mhz Transmitters (1577 total)

*Alaska, Hawaii & Puerto Rico not included





Inc.

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FEASIBILITY OF SHARING

- **2160-2200 MHz DOWNLINK BANDS: SHARING WITH FIXED SERVICE NOT POSSIBLE**
- • **RR 746X ADOPTED AT WARC-92 HAS COORDINATION TRIGGER OF -142 TO -152 dBW/m²/4 kHz**

IRIDIUM REQUIRES PFD OF AT LEAST -120 dBW/m²/4 kHz

- • **SHARING BY GEOGRAPHIC SEPARATION IS FEASIBLE ONLY WITHIN**

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SHARING - CON'T

- **1990-2010 MHz UPLINK BAND: SHARING WITH BROADCAST AUXILIARY SERVICE (FIXED STLs & TEMP-FIXED ENG) MAY BE POSSIBLE IF DIRECTION OF MSS LINK IS REVERSED**
- • **MOTOROLA STUDYING POSSIBILITY OF DOWNLINK SHARING IN THIS BAND WITH UPLINK AT 2180-2200 MHz**
 - • • **POSSIBILITY THAT DOWNLINK SIGNAL LEVELS WOULD NOT EXCEED THE THRESHOLDS OF TV REMOTE PICKUP UNITS**
 - • • **WOULD REQUIRE FUTURE WARC TO REVERSE ALLOCATION DIRECTIONS**
- • **ALTERNATIVE: REALLOCATE 1990-2008 MHz (I.E., 1 CHANNEL) FROM BROADCAST AUXILIARY TO MSS?**
 - • • **WOULD STILL LEAVE BROADCASTERS WITH ANOTHER 6 CHANNELS UP TO 2110 MHz (WITH MANY OTHER CHANNELS AVAILABLE IN OTHER BANDS)**

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SHARING - CON'T

- **MOTOROLA IS ACTIVELY PARTICIPATING IN CCIR TASK GROUP 12/4 (SHARING ISSUES BETWEEN MSS AND TERRESTRIAL SERVICES IN THE 1-3 GHz RANGE) AND IN TASK GROUP 8/1 (FPLMTS)**
- **TERRESTRIAL FPLMTS ALLOCATIONS IN OTHER PARTS OF WORLD COMPLICATES SHARING SCENARIO (E.G., BANDS CLEARED FOR MSS USE IN U.S. MAY BE USED FOR TERRESTRIAL FPLMTS IN EUROPE)**

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ESTIMATED COST OF CLEARING THE 2 GHz BANDS IN U.S.

CONCLUSIONS

- **2 GHz MSS ALLOCATIONS SHOULD BE RETAINED IN FULL**
- **NEED 2 GHz LICENSE BY 1999 IN ORDER TO MEET SECOND GENERATION SPECTRUM REQUIREMENTS (ASSUMES 2 YEARS TO CONSTRUCT AND LAUNCHES INITIATED 2 YEARS PRIOR TO OPERATIONAL DATE)**
- **DOES NOT APPEAR TO BE ECONOMICALLY FEASIBLE FOR MSS PROVIDERS TO PAY TO CLEAR SPECTRUM**
- **SPECTRUM REPLACEMENT PLAN FOR INCUMBENTS SHOULD BE IN PLACE BY 1996 IN ORDER TO PROVIDE A POTENTIALLY ADEQUATE AMORTIZATION PERIOD FOR EXISTING EQUIPMENT**